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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/785,983	02/26/2004	Hiromitsu Uchida	1163-0496P	2640

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EXAMINER	
HAM, SEUNGSOOK	

ART UNIT	PAPER NUMBER
2817	

DATE MAILED: 10/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/785,983	UCHIDA ET AL.	
	Examiner	Art Unit	
	Seungsook Ham	2817	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 September 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *1-7* is/are allowed.

6)☒ Claim(s) *8-10,15 and 16* is/are rejected.

7)☐ Claim(s) *11-14* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 8-10, 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hong et al. ("Microstrip Filters for RF/Microwave Applications") in view of Miyazaki et al. (US '073) or Uchida et al. (JP 07-094908).

Hong et al. (figs. 6.5-6.7) discloses a band rejection filter comprising; a plurality of parallel (see fig. 6.7) resonant circuits connected through transmission line each having a quarter wavelength (see fig. 6.5). Providing separate transmission lines instead of a single transmission line is considered as an obvious design modification since such modification does not alter the operation of filter, and also making a single element separable is considered as an obvious modification, see *In re Dulberg*, 289 F.2d 522, 523, 129 USPQ 348, 349 (CCPA 1961) .

Hong et al. does not show a jump-coupling circuit for coupling two non-adjacent parallel resonant circuits.

Miyazaki et al. (fig. 22) discloses a similar filter device having a jump-coupling circuit having a transmission/microstrip line 15 coupling two non-adjacent resonators 10a, 10d, to provide attenuation poles. Moreover, the both ends of the transmission line 15 provides a gap capacitor between the transmission line 15 and a resonator 10a, 10d.

Uchida et al. (figs. 1(a)-1(f)) also discloses a similar filter device having a jump-coupling circuit having a transmission/microstrip line 27 or 37 (see fig. 4(a)) coupling two non-adjacent resonators 5, 7. Moreover, the both ends of the transmission line 27 provides a gap capacitor between the transmission line 27 and a resonator 5, 7 (see abstract). Uchida et al. also addresses the conventional filter (without a jump-coupling circuit) is difficult to obtain a desired pass-band characteristic (see figs. 6(a)-7, English translation paragraphs [0002]-[0004]).

It would have been obvious to one of ordinary skill in the art to provide a jump-coupling circuit between two non-adjacent resonators in the device of Hong et al. to provide attenuation poles, thus, obtain a desired/sharper filter characteristic as taught by Miyazaki et al. (col. 17, lines 57-67) or Uchida et al. (see abstract). Providing the resonant circuits on a dielectric substrate is well known in the art, and it requires a routine skill in the art.

In response to the Applicant's argument that Miyazaki and Toshio/Uchida et al. do not show resonators (see REMARKS filed on 9/5/06, pp. 9-11), the examiner respectfully disagrees.

Applicant stated that "[T]he examiner incorrectly asserts that 10a and 10b are resonator. This is in direct contradiction to the disclosure of Miyazaki...These resonators 100a to 100 d correspond to the first resonators 1a to 1d in Fig. 1 and others" (see REMARKS, p. 11, middle paragraph). It should be noted that the filter shown in figures 21 and 22 has a stripline structure. Each strip conductor 10a-10d has the length of a quarter wavelength (i.e., resonator) which is disposed between two

dielectric substrates 8a, 8b with short-circuited ends 11a, 11b being grounded (see col. 17, lines 7-35). Resonators 100a-100d refer to stripline structure resonators, but each strip conductor 10a-10d itself is a resonator.

Uchida et al./Toshio also shows a stripline structure filter. Uchida et al. discloses that "the quarter-wave length resonator filter pattern 8 which consists of conductors 5, 6, and 7...formed into the dielectric substrate" (see English translation, paragraph [0010]). This refers to a stripline structure. Each conductor 5-7 is a quarter wavelength resonator. Moreover, Hong et al. also teaches short-circuited quarter-wavelength resonators (see p. 169, 6.2.1. Narrow-Band Bandstop Filters).

Allowable Subject Matter

Claims 11 –14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 1-7 are allowed.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Seungsook Ham whose telephone number is (571) 272-2405. The examiner can normally be reached on Monday-Thursday, 8:00AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal can be reached on (571)-272-1769. The fax phone number for the organization where this application or proceeding is assigned is **571-273-8300**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Seungsook Ham
Primary Examiner
Art Unit 2817

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